



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,577	04/12/2004	Hideaki Shinmei	61148 (70904)	2632

21874 7590 05/15/2007  
EDWARDS ANGELL PALMER & DODGE LLP  
P.O. BOX 55874  
BOSTON, MA 02205

EXAMINER
----------

BALAOING, ARIEL A

ART UNIT	PAPER NUMBER
----------	--------------

2617

MAIL DATE	DELIVERY MODE
-----------	---------------

05/15/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/822,577

Applicant(s)

SHINMEI, HIDEAKI

Examiner

Ariel Balaoing

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 is/are allowed.
- 6) ☒ Claim(s) 1 and 4-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 5-7, and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 4, 5, 7, and 20 recites the limitation "the wireless communications apparatus" in the claims. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "a wireless signal to be transmitted to the mobile terminal". As written, it is unclear as to whether "a wireless signal" refers to the wireless signal of claim 1 or a second wireless signal.

Claim 7 recites the limitation "wherein the reception level writing means write an identification code of the wireless communication apparatus into the wireless signal". However, since the wireless signal is transmitted from the mobile terminal, it is unclear as to how the receiver that receives the wireless signal would be able to write an identification code into said wireless signal.

Claim 18 and 19 recite the limitation "a wireless signal". It is unclear whether this limitation refers to "the wireless signal" of the dependent claims or a second wireless signal.

***Allowable Subject Matter***

5. Claim 21 is allowed.
6. The following is an examiner's statement of reasons for allowance:

Claim 21 is allowed for the reasons set forth in the Office Action mailed 11/29/2006 and in view of amendments made to claim 21 in the response filed 02/13/2007.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by STEWART et al (US 6,414,635 B1).

Regarding claim 1, STEWART discloses a wireless communication system (abstract) comprising: at least one mobile terminal (110); a receiver 120 that is mobile

Art Unit: 2617

and includes: reception level acquisition means for acquiring respective reception levels of wireless signals transmitted from the at least one mobile terminal, wherein the reception level acquisition means measures the respective reception levels of the wireless signals (Figure 14A; col. 30, line 24-65); transmission level acquisition means for acquiring respective transmission levels of the at least one mobile terminals, wherein the transmission level acquisition means retrieves respective transmission levels of the at least one mobile terminals contained in the wireless signals (Figure 14A; col. 30, line 24-65; transmission level of portable device sent in data packet); difference value calculation means for calculating respective difference values between the transmission levels and the reception levels (Figure 14A; col. 30, line 24-65; difference value used to obtain attenuation of signal used for location determination); and relative distance estimation means for estimating a relative distance to the mobile terminal in accordance with the respective difference values (Figure 14A; col. 30, line 24-65).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. STEWART further discloses a wireless communications system, including a plurality of wireless communications apparatuses similarly configured as the mobile receiver according to claim 1.

***Claim Rejections - 35 USC § 103***

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 2617

10. Claims 1, 4-9, 13, 14, 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over CALLAWAY, JR et al (US 6,745,038 B2) in view of STEWART et al (US 6,414,635 B1).

Regarding claim 1, CALLAWAY discloses Regarding claim 1, CALLAWAY discloses a wireless communications apparatus comprising: reception level acquisition means for acquiring respective reception levels of wireless signals transmitted from at least one mobile terminals (abstract; column 5:line 44-53), wherein the reception level acquisition means measure the respective reception levels of the wireless signals (abstract; column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48); transmission level acquisition means for acquiring respective transmission levels of the mobile terminals (abstract; column 7:line 59-column 8:line 48; col. 8, line 58-col. 9, line 15), and the transmission level acquisition means retrieve respective transmission levels of the mobile terminals; a value calculation [**path loss**] means for calculating respective values between the transmission levels and the reception levels (abstract; column 7:line 59-column 8:line 48; col. 8, line 58-col. 9, line 15; path loss calculations); and relative distance estimation means for estimating a relative distance to the mobile terminal in accordance with the respective values (column 7:line 59-column 8:line 48; col. 8, line 58-col. 9, line 15; path loss calculations). Although CALLAWAY shows determination of path loss, which as is known in the art can be calculated using a difference between a transmitted and received power level, CALLAWAY does not expressly disclose wherein the transmission levels are retrieved from the wireless signals transmitted to the apparatus; a difference value calculation means for

Art Unit: 2617

calculating respective difference values between the transmission levels and the reception levels. In the same field of the endeavor, STEWART discloses where transmission levels are retrieved from the wireless signals transmitted to an apparatus (Figure 14A; col. 30, line 24-65); a difference value calculation means for calculating respective difference values between the transmission levels and the reception levels (Figure 14A; col. 30, line 24-65); and relative distance estimation means for estimating a relative distance to the mobile terminal in accordance with the respective difference values (Figure 14A; col. 30, line 24-65). There for it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify CALLAWAY to include transmission levels within a wireless signal and a difference value calculation means for calculating respective difference values between the transmission levels and the reception levels, as taught by STEWART, since STEWART discloses that such a modification would improve location precision.

Regarding claim 4, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level writing means for writing a transmission level of the wireless communications apparatus into a wireless signal to be transmitted to the mobile terminal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48).

Regarding claim 5, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses wherein: the transmission level writing means write an identification code of the wireless communications apparatus into the wireless signal (column 5:line 44-column 6:line 51;

column 7:line 59-column 8:line 48; transmission levels gathered by the master station are arranged to include slave id's from the wireless signal transmission).

Regarding claim 6, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: reception level writing means for writing the reception level into a wireless signal to be transmitted to the mobile terminal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48; reception levels gathered at the master station are arranged to include slave id's from the wireless level transmission).

Regarding claim 7, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses wherein: the reception level writing means write an identification code of the wireless communications apparatus into the wireless signal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48; reception levels gathered at the master station are arranged to include slave id's from the wireless level transmission).

Regarding claim 8, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: reception level sorting means for sorting the reception levels acquired by the reception level acquisition means (column 4:lines 26-59; column 7:lines 59-48).

Regarding claim 9, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: a value sorting means for sorting values calculated by the value calculation means (column 7:line 59-column 8:line 48; path loss calculations). However, CALLAWAY does



not expressly disclose wherein the calculated values are difference values between a transmitted signal and received signal. STEWART discloses wherein the calculated values are difference values between a transmitted signal and received signal (col. 30, line 24-65).

Regarding claim 13, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as close mobile terminals, at least one mobile terminals providing a reception level greater than a predetermined threshold value among the reception levels acquired by the reception level acquisition means (column 7:line 23-41); and selection means for selecting, in accordance with the identification codes acquired for the close mobile terminals thus determined, mobile terminals having the identification code to be connected (column 7:line 23-41; identification codes for each device is inherently necessary to sort communication between devices).

Regarding claim 14, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless

Art Unit: 2617

signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); terminal determination means for determining at least one mobile terminals providing a transmission level greater than a predetermined threshold value among the transmission levels acquired by the transmission level acquisition means (column 7:line 23-41); and selection means for selecting, in accordance with the identification codes acquired for the mobile terminals thus determined, mobile terminals having the identification code to be connected (column 7:line 23-41; identification codes for each device is inherently necessary to sort communication between devices).

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level reduction means for reducing a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, shorter than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level raise means for raising a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, longer than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 18, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: writing control means for controlling the transmission level writing means to periodically write a transmission level into a wireless signal (column 7:lines 59-column 8:line 35).

Regarding claim 19, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: writing control means for controlling the reception level writing means to periodically write a reception level into a wireless signal (column 7:lines 59-column 8:line 35).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses a wireless communications system, including a plurality of the wireless communications apparatuses according to any one of claims 1-9, 18, and 19.

11. Claims 10-12, 16, 17, 20 rejected under 35 U.S.C. 103(a) as being unpatentable over CALLAWAY, JR et al (US 6,745,038 B2) in view of STEWART et al (US 6,414,635 B1), and in further view of PALAMARA et al (US 5,963,866).

Regarding claim 10, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining,

as a close mobile terminal, a mobile terminal providing a reception level among the reception levels acquired by the reception level acquisition means (column 6:line 15-26; column 7:line 59-column 35); and selection means for selecting, in accordance with the acquired identification code of the closest mobile terminal thus determined, only the mobile terminal having the identification code to be connected (column 7:line 23-41). However, the combination of CALLAWAY and STEWART does not expressly disclose wherein the terminal determination means provides selection of the closest terminal based on a largest reception level. PALAMARA discloses wherein the terminal determination means provides selection of the closest terminal based on a largest reception level (column 5:line 60-column 7:line 19). Therefore it would have been obvious to a person of ordinary skill in the art to modify the combination of CALLAWAY and STEWART in this way, as taught by PALAMARA, as both systems relate to mobile terminal positioning. This is beneficial in that stronger signal strength readings would occur between the devices provide there are no barriers between the devices.

Regarding claim 11, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); terminal determination means for determining a mobile terminal providing a transmission level among the transmission levels acquired

by the transmission level acquisition means (column 6:line 15-26; column 7:line 59-column 35); and selection means for selecting, in accordance with the acquired identification code of the mobile terminal thus determined, only the mobile terminal having the identification code to be connected (column 7:line 23-41). However, the combination of CALLAWAY and STEWART does not expressly disclose wherein the terminal determination means provides selection of the closest terminal based on a largest reception level. PALAMARA discloses wherein the terminal determination means provides selection of the closest terminal based on a largest reception level (column 5:line 60-column 7:line 19). Therefore it would have been obvious to a person of ordinary skill in the art to modify the combination of CALLAWAY and STEWART in this way, as taught by PALAMARA, as both systems relate to mobile terminal positioning. This is beneficial in that stronger signal strength readings would occur between the devices provide there are no barriers between the devices.

Regarding claim 12, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as a close mobile terminal, a mobile terminal providing a smallest difference value among the difference values calculated by the difference value calculation means

(column 7:line 59-column 8:line 48; path loss calculations); and selection means for selecting, in accordance with the acquired identification code of the closest mobile terminal thus determined, only the mobile terminal having the identification code to be connected (column 7:line 23-41). However, the combination of CALLAWAY and PERSSON does not expressly disclose wherein the terminal determination means provides selection of the closest terminal based on a largest reception level.

PALAMARA discloses wherein the terminal determination means provides selection of the closest terminal based on a largest reception level (column 5:line 60-column 7:line 19). Therefore it would have been obvious to a person of ordinary skill in the art to modify the combination of CALLAWAY and STEWART in this way, as taught by PALAMARA, as both systems relate to mobile terminal positioning. This is beneficial in that stronger signal strength readings would occur between the devices provide there are no barriers between the devices.

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level reduction means for reducing a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, shorter than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level raise means for raising a transmission level of a wireless signal to be

transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, longer than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses a wireless communications system, including a plurality of the wireless communications apparatuses according to any one of claims 10-12.

12. Claims 15, 16, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over CALLAWAY, JR et al (US 6,745,038 B2) in view of STEWART et al (US 6,414,635 B1) and in further view of PERSSON et al (US 6,028,851).

Regarding claim 15, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as close mobile terminals (column 7:line 59-column 8:line 48); and selection means for selecting, in accordance with the identification codes acquired for the close mobile terminals thus determined, mobile terminals having the identification code to be connected (column 7:line 23-41). However, the combination of CALLAWAY and STEWART does not expressly disclose at least one mobile terminal providing a

Art Unit: 2617

difference value less than a predetermined threshold value among the difference values calculated by the difference value calculation means. PERSSON disclose wherein the RSSI is compared to a predetermined threshold value (column 7:line 23-41).

CALLAWAY further discloses determining close terminals using a difference value calculation means (column 7:line 59-column 8:line 48; path loss calculations).

Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of CALLAWAY and STEWART to provide at least one mobile terminal providing a difference value less than a predetermined threshold value among the difference values calculated by the difference value calculation means, as this value is directly proportional to the signal strength calculation disclosed.

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level reduction means for reducing a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, shorter than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level raise means for raising a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the



Art Unit: 2617

relative distance estimation means, longer than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 20, CALLAWAY further discloses a wireless communication system, including a plurality of the wireless apparatuses similarly configured as the mobile receiver according to claim 15.

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ariel Balaoing whose telephone number is (571) 272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 PM.


Art Unit: 2617

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ariel Balaoing – Art Unit 2617

AB

  
WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600